

### **ABSTRACT**

A T-shaped gauge and acetabular cup navigation system and acetabular cup aligning method using the T-shaped gauge, which can measure anatomical landmarks of the pelvis at the same time, calculate an anterior pelvic plane from the measured value, calculate a transformed anterior pelvic plane by converting the anterior pelvic plane in comparison with a pelvic reference frame, and set a direction vector of an acetabular cup on the transformed anterior pelvic plane, thereby exactly inserting the acetabular cup into the acetabulum without regard to movement of the pelvis.

10